

# **The Ever-Expanding World of Nanotechnology**

## **A WebQuest for Exploring Nanotechnology**

### **Introduction**

During the last two decades, more and more scientists began research into nanotechnology, the branch of science that deals with the development and use of devices on the nanometer scale. Although it is used in many products today, many people know little about nanotechnology, its benefits, or its risks. In this WebQuest, you will explore the vast field of nanotechnology and learn about its benefits and potential drawbacks. Then, you will choose a current or future application of nanotechnology and create a presentation about it.

### **Task**

The National Nanotechnology Initiative (NNI) is beginning an advertising campaign to explain current and future benefits of nanotechnology to the general public. The NNI has hired your advertising firm for this campaign. Your task is to create a whiteboard or computer presentation that highlights a current or future use of nanotechnology and how it benefits society.

### **Process**

Use the resources listed in the Resources section to begin your research. The Web sites listed are good starting points, but further Internet research will be necessary. Record your answers to the following questions. You will use them to create a whiteboard or computer presentation at the end of the project.

1. How is nanotechnology currently being used to benefit society?
2. How might nanotechnology be used in the future to benefit society?
3. Are there any potential negative effects of nanotechnology?
4. Describe an application of nanotechnology that interests you.

### **Whiteboard or Computer Presentation**

Once you have completed your research, create a whiteboard or computer presentation about the nanotechnology application that you described in your answer to Question #4. Use your answers to the other three questions to inform your presentation. Make sure to use as many photographs, illustrations, and other graphics as possible and to footnote your sources in the presentation. You will show your presentation to “representatives of the NNI” (your classmates), who will ask you questions about how the presentation explains nanotechnology to the general public.

### **Resources**

[National Nanotechnology Initiative](#)

[U.S. Department of Energy](#)

[Lawrence Berkeley National Laboratory](#)

[How Stuff Works](#)

[MedlinePlus](#)

[Environmental Protection Agency \(EPA\)](#)

**Evaluation**

Read this rubric to see how you will be scored on this activity.

Criteria					Points
	0	5	10	15	
<b>Task</b>	The task was not completed.	It appears that some effort was made to complete the task, but major ideas are missing.	The task was completed as assigned, but the application was not fully explained.	The task was completed with great attention to detail and thorough documentation.	
<b>Process</b>	The process was not followed.	The process was followed, but not all of the questions were answered.	The process was followed, but some of the questions were answered incorrectly.	It is clear that much research went into the project. The nanotechnology application was thoroughly explained.	
<b>Presentation</b>	The presentation was sloppy and not well prepared.	The presentation included key ideas about the application but lacked general cohesiveness.	The presentation was well organized, and ideas about the application were clearly stated.	The presentation was well organized with clearly stated ideas, thorough documentation, and engaging graphics.	
<b>Total Score</b>					